

REMARKS

By the present amendment claims 1, 17, 20, 31, 32, 39, and 45 have been amended and no claims have been added or cancelled. Accordingly claims 1 – 45 are presently pending in the application and favorable consideration thereof is respectfully requested.

Claim Rejections 35 U.S.C. § 103(a)

The Examiner has rejected claims 1-12, 17-25, 30-35, and 39-42 under 35 U.S.C. § 103(a) as being unpatentable over Panaro (US 4,661,807).

The requirements for a *prima facie* case of obviousness have been well established by the Court of Appeals for the Federal Circuit, and are concisely summarized in M.P.E.P. § and 2143, which confirm that three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant's amended claim 1 recites:

1. A fault condition monitoring apparatus for use with a fuse cutout while a fuse is being operatively held by the fuse cutout, the apparatus comprising:

a housing operable to be supported by the fuse cutout while a fuse is being operatively held by the fuse cutout, said housing having first and second contacts operable to make electrical

contact with fuse contacts on said fuse cutout when said housing is supported by said fuse cutout;

a current sensor inside said housing and connected to said first and second contacts; and

a signaling device coupled to said current sensor and operable to cause a signal to be produced when current sensed by said current sensor meets a criterion.

Panaro fails to disclose or suggest a current sensor inside a housing and connected to first and second contacts, as recited in Applicant's claim 1.

In his reasons for rejecting claim 1, the Examiner states that Panaro discloses all that is recited in Applicant's claim 1 by repeating Applicant's claim 1, with numerical references beside certain elements thereof presumably to indicate numerical references of items in Panaro that allegedly correspond to elements of Applicant's claim 1. However, the Examiner has omitted the language in Applicant's claim 1 that the current sensor is inside said housing.

In particular, the Examiner has included the Applicant's claim language that recites "a current sensor", has omitted the language that the current sensor is inside said housing and has included the language that the current sensor is connected to said first and second contacts, the first and second contacts having been previously recited as being operable to make electrical contact with fuse contacts on the recited fuse cutout.

On the last two lines of page 2 of the Office Action the Examiner states:

"However, Panaro fails to disclose said current sensor located inside said housing and connected to said first and second contacts."

The above statement is inconsistent with the allegation made by repeating Applicant's claim 1 in that on the one hand, the Examiner states that Panaro

discloses a current sensor connected to the first and second contacts, whereas on the other hand the Examiner indicates Panaro does not disclose a current sensor connected to the first and second contacts.

The later view is correct, i.e. that Panaro does not disclose a current sensor connected to the first and second contacts.

In essence, Applicant understands the Examiner's position to be as stated on the last two lines of page 2, i.e. that *Panaro fails to disclose said current sensor located inside said housing and connected to said first and second contacts.*

In his explanation as to why Applicant's claim 1 is considered to be obvious, the Examiner alleges the current sensor could be located anywhere inside the fuse holder including inside the fuse housing and still able to sense current passing through the fuse or fuse holder and thus it would be obvious to have the current sensor inside the housing as a matter of design choice.

It is important to note that Applicant's claim 1 recites "A fault condition monitoring apparatus for use with a fuse cutout...". Thus, the fault condition monitoring apparatus is separate from the fuse cutout or holder. Thus, in Applicant's claim 1, the apparatus in which the current sensor is located is separate from the fuse holder.

Panaro discloses a Hall effect sensor in the fuse holder to sense current through a current path on the fuse holder. There is no suggestion or motivation, either from Panaro or in the knowledge generally available to one of ordinary skill in the art, to modify the teaching of Panaro to include the current sensor in a housing operable to be supported by the fuse cutout while a fuse is being operatively held by the fuse cutout, as recited in Applicant's claim 1.

In addition, there would be no reasonable expectation of success in moving the sensor outside the fuse holder of Panaro since Panaro requires close

proximity of the sensor to the current path for proper operation. It is not clear as to how this could be achieved with a housing such as recited in Applicant's claim 1.

Finally, Panaro does not teach all of the claim limitations. The claim recites a current sensor inside the housing separated by the fuse cutout while a fuse is being operatively held by the fuse cutout, whereas Panaro discloses a current sensor inside the fuse holder. The housing recited in Applicant's claim and the fuse holder described by Panaro are quite different components. Thus, the fuse holder is not the housing referred to in Applicant's claim 1.

From the foregoing, it will be appreciated that none of the three requirements for a *prima facie* case of obviousness have been established with the claims as it stood before amendment, and therefore Applicant's claim 1 is not obvious. Applicant's claim 1 is further rendered not obvious by the amendment thereto.

Notwithstanding the above remarks about the sensor being inside the housing, Applicant wishes to point out the Examiner has also admitted that Panaro fails to disclose a current sensor connected to said first and second contacts. The first and second contacts are those that are on the housing. Bearing in mind that for the reasons explained above, Panaro does not disclose a housing as recited in Applicant's claim 1, Panaro teaches away from the use of contacts and rather relies on electromagnetic coupling for current sensing. This is exemplified by the statement on column 7 at line 15 that reads: "Accordingly, while the path of the fuse holder is of the utmost importance to the sensing arrangement of the present invention....", and by the statement at column 2 lines 40-8 which states that "The sensor is not hard wired into the circuit of the fuse holder and is not damaged when a fuse blows thereby making it operationally useful for the life of the fuse holder." Thus, there is no suggestion or motivation by Panaro or in the knowledge generally available to one of ordinary skill in the art, to modify the teachings of Panaro to connect the sensor to the contact that is connected to the fuse. There is also no reasonable expectation of success in modifying the teachings of

Panaro in this manner, since it is of the utmost importance to use the magnetic field surrounding a portion of the current path in the Panaro device. Consequently, Panaro fails to disclose the Applicant's claim limitation that the current sensor is connected to the first and second contacts operable to make electrical contact with the fuse contacts on the fuse cutout. Consequently, Applicant respectfully submits a prima facie case of obviousness has not been established with respect to claim 1 in this regard and the rejection is improper.

Claims 2-12, 19 and 19 are ultimately dependent on claim 1 and therefore the rejection of these claims is improper due to their dependence on claim 1, and due to the additional subject matter they recite.

Notwithstanding the above arguments, in particular, in connection with claims 8 and 9, the Examiner has stated that "It has been well known in the art to use a voltage-divider of resistor network or capacitor network in current sensing circuit, thus, it would have been obvious to one of ordinary skill in the art use a voltage divider of capacitor network for sensing current." Applicant submits that this is not the case, since in order to sense current, a voltage divider would require a connection to first and second contacts, and Panaro discloses the undesirability of such an arrangement. Consequently, one of ordinary skill in the art, in view of the disclosure provided by Panaro, would not be motivated to modify the disclosed fuse holder to include a voltage divider that is connected to the first and second contacts.

An argument similar to that set forth in connection with claim 1 also applies to claim 17, which is a method claim using language similar to claim 1. In particular, Panaro fails to disclose or suggest connecting to the fuse cutout a housing containing a current sensor, such that the current sensor is electrically connected to fuse contacts on the fuse cutout. Consequently, Applicant respectfully submits a prima facie case of obviousness has not been established with respect to claim 17 and the rejection is improper. The rejection of claim 17 is also rendered further unobvious by the amendment made thereto.

Claim 20 recites, inter alia, a fuse cutout apparatus comprising an insulator, fuse contacts, a current sensor inside the insulator and connected to the fuse contacts. As explained above, Panaro fails to disclose or suggest a current sensor connected to the fuse contacts. Consequently, Applicant respectfully submits a prima facie case of obviousness has not been established with respect to claim 20, and therefore the rejection of claim 20 is improper. The rejection of claim 20 is also rendered further unobvious by the amendment made thereto.

Claims 21-25 and 30 ultimately depend from claim 20 and therefore the rejection of these claims is improper due to their dependence on claim 1 and due to the additional subject matter they recite.

Amended claim 31 is a method claim that recites a method of monitoring for a fault...comprising connecting between said supply conductor and said electrical device, a fuse cutout having fuse contacts, an insulator and a current sensing circuit connected to said fuse contacts while a fuse is connected to said fuse contacts and located inside said insulator. The claim has been amended to clarify that the current sensing circuit is connected to said fuse contacts while a fuse is connected to said fuse contacts. As explained above, Panaro does not disclose or suggest a current sensor connected to the fuse contacts. Consequently, Applicant respectfully submits the rejection of claim 31 has been overcome.

Amended claim 32 is similar to claim 1 except that the current sensor and signaling device are replaced with current sensing means and signaling means respectively. The remarks made in connection with claim 1 therefore are equally applicable to claim 32. Consequently, Applicant respectfully submits a prima facie case of obviousness has not been established with respect to claim 32 and the rejection is improper. The rejection of claim 32 is also rendered further unobvious by the amendment made thereto.

Claims 33-35 are all ultimately dependent upon claim 32, and due to this dependence and due to the additional subject matter recited in these claims,

Applicant respectfully submits that a prima facie case of obviousness has not been established with respect to claims 33-35 and the rejection of these claims is improper.

Claim 39 recites an apparatus similar to that recited in claim 20, with the exception that the fuse holder is replaced with means for holding a fuse, the current sensor is replaced with current sensing means and the signaling device is replaced with signaling means. As explained above, Panaro fails to disclose or suggest a current sensor connected to the fuse contacts. Consequently, Applicant respectfully submits a prima facie case of obviousness has not been established with respect to claim 39 and the rejection is improper. The rejection of claim 39 is also rendered further unobvious by the amendment made thereto.

Claims 40-42 are all ultimately dependent upon claim 39. Due to this dependence and due to the additional subject matter recited in these claims, Applicant respectfully submits that a prima facie case of obviousness has not been established with respect to claims 40-42 and the rejection of these claims is improper.

The Examiner has rejected claims 13, 26, 36, and 43 as being unpatentable over Panaro (US 4,661,807) in view of Hatton (US 5,739,737).

Claim 13 is ultimately dependent upon amended claim 1 which has been contrasted with Panaro above. Notwithstanding the above remarks, neither Panaro nor Hatton discloses or suggests a housing operable to be supported by the fuse cutout while a fuse is being operatively held by the fuse cutout. Therefore the rejection of claim 13 is overcome at least by the amendment to claim 1 and due to the additional subject matter claimed in claim 13.

Claim 26 is ultimately dependent upon claim 20 which has been contrasted with Panaro above. Notwithstanding the above remarks, neither Panaro nor Hatton discloses or suggests a current sensor inside said insulator and

connected to said first and second fuse contacts while a use is being operatively held in said fuse contacts. Therefore the rejection of claim 26 is overcome at least by the amendment to claim 1 and due to the additional subject matter claimed in claim 26.

Claim 36 is ultimately dependent upon amended claim 32 which has been contrasted with Panaro above. Notwithstanding the above remarks, neither Panaro nor Hatton discloses or suggests a housing operable to be supported by the fuse cutout while a fuse is being operatively held by the fuse cutout. Therefore, the rejection of claim 32 is overcome at least by the amendment to claim 32 and due to the additional subject matter claimed in claim 36.

Claim 43 is ultimately dependent upon claim 39 which has been contrasted with Panaro above. Notwithstanding the above remarks, neither Panaro nor Hatton discloses or suggests current sensing means inside said insulator and connected to said first and second fuse contacts while a use is being operatively held by said means for holding a fuse. Therefore the rejection of claim 43 is overcome at least by the amendment to claim 39 and due to the additional subject matter claimed in claim 43.

The Examiner has rejected claims 14-16, 27-29, 37-38, and 44-45 under 35 U.S.C. § 103(a) as being unpatentable over Panaro (US 4,661,807) in view of Tsui (US 6,597,291).

Claims 14-16 are ultimately dependent upon amended claim 1, which has been contrasted with Panaro above.

Claims 27-29 are ultimately dependent upon amended claim 20, which has been contrasted with Panaro above.

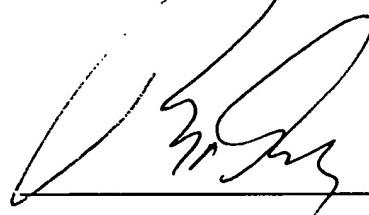
Claims 37-38 are ultimately dependent upon amended claim 32, which has been contrasted with Panaro above.

Claims 44-45 are ultimately dependent upon amended claim 39, which has been contrasted with Panaro above.

Tsui discloses a garage door monitoring system. Neither Panaro nor Tsui provides any suggestion or motivation to modify the teachings of Panaro to arrive at Applicant's invention as claimed in the claims rejected under this heading. Specifically, there is no disclosure or suggestion to employ a device comprising a housing having a sensor inside, where the sensor is connected to the first and second contacts operable to make contact with a fuse while a fuse is being operatively held by the fuse cutout and where a transmitter produces a control signal for reception by a remotely located annunciator that may have an audio or visual indicator. There is simply no motivation to provide such a combination of elements, and there is no indication in either reference as to how such a combination would be used or would be configured to be used in the application proposed by the present Applicant and thus there is no reasonable expectation of success. Furthermore, even if all of the elements of the two references were combined, not all of the elements included in the claims under this heading would be specified (as explained in connection with claims 1, 20, 32 and 39, for example) and therefore the combination would lack one or more of the elements of applicant's claims. Consequently, Applicant respectfully submits the rejection is improper and is further overcome by the amendments to the dependent claims from which the rejected claims under this heading depend. Therefore, a *prima facie* case of obviousness cannot be properly established on the basis of the cited references, for claims 14-16, 27-29, 37-38 and 44-45 due to their dependence upon claim 1, 20, 32 or 39 above, which have been shown to distinguish over the cited references and due to the additional subject matter that claims 14-16, 27-29, 37-38 and 44-45 add to the claims from which they depend.

Applicant respectfully requests further favorable consideration of the application.

Respectfully submitted,

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